

# IAIN STUART MCDERMID

## CURRICULUM VITAE

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California Institute of Technology

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*Education:* B.Sc. 1970 - 1973 Physical Chemistry  
University of London, Queen Mary College

Ph.D. 1973 - 1976 Laser Spectroscopy  
University of London, Queen Mary College

*Educational Awards:* 1973 - 1976 British Gas Corporation  
Research Scholarship

1976 - 1978 Science Research Council (UK)  
Postdoctoral Research Fellowship

1978 -1981 National Academy of Sciences -  
National Research Council (USA)  
Resident Research Associateship

*Society Memberships:* American Geophysical Union  
Optical Society of America

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<i>Scientific Awards:</i>	1992	NASA Exceptional Scientific Achievement Medal
	1993	NASA Group Achievement Award (Galileo Optical Pointing Experiment)
	1994	NASA Group Achievement Award (Atmospheric Lidar Team)
	1998	JPL Technology and Applications Programs Honor Award for Exceptional Achievement
	1999	JPL Notable Organizational Value-Added Award
	2006	NASA Space Act Board Exceptional Award
	2007	Oceanic and Atmospheric Research Outstanding Scientific Paper Award (NOAA).
	2008	NASA Space Act Board Major Award
	2009	NASA Group Achievement Award (MOHAVE Campaign)

*Other Certifications:* Medic First Aid, CPR, and Automated External Defibrillator  
Divemaster (PADI-Professional Association of Dive Instructors)  
Laser Safety Officer (Laser Institute of America)

*Mentor/Advisor to:* Dr. Sophie Godin (NRC-RRA)  
Prof. David Haner (Sabbatical)  
Dr. Moshe Kleiman (NRC-SRA)  
Mr. David Mills (APT)  
Dr. Raymond Hoff (Sabbatical)  
Mr. David Salcedo (APT)  
Mr. Eric Sirko (APT)  
Dr. Georg Beyerle (NRC-SRA)  
Dr. Thierry Leblanc (NRC-RRA)  
Mr. Jeffrey Howe (APT)  
Dr. Om Tripathi (NRC-RRA, NPP)  
Dr. Robin Aspey (Caltech PD)  
Dr. Tao Li (Caltech PD)

## PUBLICATIONS

### THESIS

1. **I. S. McDermid.**  
Application of Laser-Induced Fluorescence to the Spectroscopy and Kinetics of Simple Molecules.  
*Ph.D. Thesis, University of London, 1976.*

### BOOKS

1. M. A. A. Clyne and **I. S. McDermid.**  
Laser Induced Fluorescence: Electronically Excited States of Small Molecules.  
*Advances in Chemical Physics, Vol. L, Dynamics of the Excited State.*  
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2. **I. S. McDermid**  
Modern Photochemical Techniques: The study of Fluorescence Decay.  
*Comprehensive Chemical Kinetics, Vol. 24, Modern Methods in Kinetics.*  
Eds. C. H. Bamford and C. F. H. Tipper, Elsevier Scientific Publishing Co., Amsterdam, 1983.

### PUBLICATIONS (Refereed Journals)

1. M. A. A. Clyne and **I. S. McDermid**  
Mass Spectrometric Determinations of the Rates of Elementary Reactions of NO and NO<sub>2</sub> with Ground-State N<sup>4</sup>S Atoms.  
*J. C. S. Faraday I, 71, 2189-2202, 1975.*
2. M. A. A. Clyne, **I. S. McDermid** and (in part) A. H. Curran.  
The Spectroscopic Detection of Molecular Species Using a Scanning Narrow-Band Dye Laser.  
*J. Photochemistry, 5, 201-215, 1976.*
3. M. A. A. Clyne and **I. S. McDermid.**  
B<sup>3</sup>Π(0<sup>+</sup>) States of IF, ICl and IBr. Part 1 - Calculation of the RKR Turning Points and Franck-Condon Factors for the B-X Systems.  
*J. C. S. Faraday II, 72, 2242-2251, 1976.*
4. M. A. A. Clyne and **I. S. McDermid.**  
B<sup>3</sup>Π(0<sup>+</sup>) States of IF, ICl and IBr. Part 2 - Observation and Analysis of the Excitation Spectra of IF and ICl.  
*J. C. S. Faraday II, 72, 2252-2268, 1976.*
5. M. A. A. Clyne and **I. S. McDermid.**  
Kinetics of Excited B<sup>3</sup>Π(0<sup>+</sup>) States of BrF, ICl and IF. Fluorescence Decay Lifetimes and Quenching Cross-Sections.  
*J. C. S. Faraday II, 73, 1094-1106, 1977.*
6. M. A. A. Clyne and **I. S. McDermid.**  
Quantum Resolved Dynamics of Excited States. Part 1 - Predissociation in the B<sup>3</sup>Π(0<sup>+</sup>) State of BrF.  
*J. C. S. Faraday II, 74, 644-663, 1978.*
7. M. A. A. Clyne and **I. S. McDermid.**  
Quantum Resolved Dynamics of Excited States. Part 2 - Stable Levels of the B<sup>3</sup>Π(0<sup>+</sup>) State of BrF.  
*J. C. S. Faraday II, 74, 664-680, 1978.*

8. M. A. A. Clyne and **I. S. McDermid**.  
Studies of BrCl by Laser Induced Fluorescence. Part 1 - Excitation Spectra and Predissociation in the Excited  $B^3\Pi(0^+)$  State.  
*J. C. S. Faraday II*, 74, 798-806, 1978.
9. M. A. A. Clyne and **I. S. McDermid**.  
Studies of BrCl by Laser Induced Fluorescence. Part 2 - State-Selected Kinetics in the Excited  $B^3\Pi(0^+)$  State of BrCl.  
*J. C. S. Faraday II*, 74, 807-820, 1978.
10. M. A. A. Clyne and **I. S. McDermid**.  
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*J. C. S. Faraday II*, 74, 1376-1392, 1978.
11. M. A. A. Clyne and **I. S. McDermid**.  
Quantum Resolved Dynamics of Excited States. Part 4 - Radiative and Predissociative Lifetimes of IF  $B^3\Pi(0^+)$ .  
*J. C. S. Faraday II*, 74, 1644-1661, 1978.
12. M. A. A. Clyne and **I. S. McDermid**.  
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*J. C. S. Faraday II*, 75, 280-291, 1979.
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15. M. A. A. Clyne and **I. S. McDermid**.  
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18. **I. S. McDermid**.  
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19. **I. S. McDermid** and J. B. Laudenslager.  
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20. T. J. Pacala, **I. S. McDermid** and J. B. Laudenslager.  
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21. **I. S. McDermid** and J. B. Laudenslager.  
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35. **I. S. McDermid**.  
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36. **I. S. McDermid**, S. M. Godin, Pi-Huan Wang and M. P. McCormick.  
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40. **I. S. McDermid**, S. M. Godin, L. O. Lindquist, T. D. Walsh, J. Burris, J. Butler, R. Ferrare, D. Whiteman and T. J. McGee.  
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Lidar Observations of Ozone Changes Induced by Sub-Polar Airmass Motion Over Table Mountain (34.4° N).  
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43. **I. S. McDermid**, S. M. Godin and T. D. Walsh.  
Lidar Measurements of Stratospheric Ozone and Inter-Comparisons and Validation (Invited Paper).  
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Ground-Based Microwave Monitoring of Stratospheric Ozone.  
*J. Geophysical Research*, 97, 2541-2546, 1992.
46. **I. S. McDermid**.  
A 4-Year Climatology of Stratospheric Ozone from Lidar Measurements at Table Mountain (34.4° N).  
*J. Geophysical Research*, 98, 10509-10515, 1993.
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Results from Two Years of Ozone Data Taken with a New, Ground-Based Microwave Instrument: An Overview.  
*Ozone in the Troposphere and Stratosphere, Proceedings of the Quadrennial Ozone Symposium 1992, NASA Conference Publication 3266*, 645-648, 1994.
48. **I. S. McDermid**, M. S. Schmoe and T. D. Walsh.  
Lidar Measurements of Stratospheric Ozone at Table Mountain, California, Since 1988.  
*Ozone in the Troposphere and Stratosphere, Proceedings of the Quadrennial Ozone Symposium 1992, NASA Conference Publication 3266*, 649-652, 1994.
49. J. J. Tsou, B. J. Connor, A. Parrish, **I. S. McDermid** and W. P. Chu.  
Ground-Based Microwave Monitoring of Middle Atmosphere Ozone: Comparison to Lidar and SAGE II Satellite Observations.  
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NDSC and the JPL Stratospheric Lidars (Invited Paper).  
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7. Member of the Committee on Laser Atmospheric Studies (CLAS), American Meteorological Society. January 31, 1990 through January 31, 1993.
8. Member of the Technical Program Committee for the Optical Society of America, Fifth Topical Meeting on Optical Remote Sensing of the Atmosphere, Williamsburg, Virginia, USA, November 1991.
9. Program Chairman for the Optical Society of America, Sixth Topical Meeting on Optical Remote Sensing of the Atmosphere, Salt Lake City, Utah, USA, March 1993.
10. External Examiner for Ph.D. candidate Wolfgang Steinbrecht, York University, Department of Physics, Toronto, Canada, March 1994.
11. General Chairman for the Optical Society of America, Seventh Topical Meeting on Optical Remote Sensing of the Atmosphere, Salt Lake City, Utah, USA, February 1995.
12. Referee for the Network for the Detection of Stratospheric Change Ozone Intercomparison at Lauder (OPAL), New Zealand, April/May 1995.
13. Member of the Program Committee for the 19<sup>th</sup> International Laser Radar Conference, Annapolis, Maryland, USA, July 1998.
14. Member of the Technical Program Committee for the Optical Society of America, Topical Meeting on Optical Remote Sensing of the Atmosphere '99, Santa Barbara, USA, June 1999.
15. Associate Editor, Journal of Geophysical Research – Atmospheres, American Geophysical Union, January 1999 – December 2000.
16. Member of the Mojave Desert Air Pollution Transportation Committee, Mojave Desert Air Quality Management District, Victorville, CA.

17. Convener of the special session entitled Network for the Detection of Stratospheric Change at the AGU Western Pacific Geophysics Meeting 2000, Tokyo, Japan, June 2000.
18. Member of the Scientific Programme Committee for the NDSC 2001 Symposium: Celebrating 10 Years of Atmospheric Research, September 2001, Arcachon, France.
19. Member of the Committee on Laser Atmospheric Studies (CLAS), American Meteorological Society, January 2002 – January 2005.
20. Referee for the Network for the Detection of Stratospheric Change Temperature and Ozone Intercomparison at Lauder (TOPAL), New Zealand, April 2002.
21. Member of the Program Committee for SPIE's Third International Asia-Pacific Symposium on Remote Sensing of the Atmosphere, Environment, and Space, Lidar Remote Sensing for Industry and Environment Monitoring, Hangzhou, China, October 2002.
22. Member of the Program Committee for SPIE's International Symposium on Optical Science and Technology, Lidar Remote Sensing for Environment Monitoring, San Diego, California, USA, August 2003.
23. Chairman, Jet Propulsion Laboratory Laser Safety Committee, December 2003 – present.
24. Member of the Program Committee for SPIE's Fourth International Asia-Pacific Environmental Remote Sensing Symposium: Remote Sensing of the Atmosphere, Ocean, Environment, and Space; Lidar Remote Sensing for Industry and Environment Monitoring, Honolulu, Hawaii, USA, November 2004.
25. Member of the Table Mountain Facility Master Plan Steering Group. 2006.
26. Local Host/Chair, NDACC Steering Committee Meeting, Waikoloa, Hawaii, USA, December 2007.
27. Co-Chair, NDACC/GAW/IGACO/SHADOZ Ozone Theme Meeting, WMO Geneva, Switzerland, April 2008.
28. Affiliate Member of the Graduate Faculty, The University of Alabama in Huntsville.
29. Member of the Ground-Based Observations Working Group for the WMO/IGACO-O3-UV/IO3C/NDACC initiative on Ozone Cross-Sections, May 2009.
30. Member of the Program Committee for the 25<sup>th</sup> International Laser Radar Conference (ILRC), St. Petersburg, Russia, July 2010.

## CONFERENCE AND WORKSHOP REPORTS AND PRESENTATIONS

1. **I. S. McDermid.**  
(Invited Talk). Counting Techniques in Kinetics Measurements.  
*PARC Seminar on Photon Counting*, U.S. Trade Centre, London, 1974.
2. **I. S. McDermid** and M. A. A. Clyne.  
Detection of Molecular Species and Free Radicals Using a Tunable Dye Laser.  
*8<sup>th</sup> International Conference on Photochemistry*, University of Alberta, Edmonton, Canada, August 1975.
3. **I. S. McDermid** and M. A. A. Clyne.  
Kinetics of Excited  $B^3\Pi(0^+)$  States of BrF, ICl and IF.  
*Chemical Society Conference on Energy Transfer*, Cambridge University, Cambridge, England, January 1977.
4. **I. S. McDermid** and M. A. A. Clyne.  
A Study of the Lifetime Dependence on  $v'$  and  $J'$  Near the Predissociation in the  $B^3\Pi(0^+)$  States of the Interhalogens.  
*Lasers in Chemistry*, International Conference, The Royal Institution, London, England, June 1977.
5. **I. S. McDermid** and M. A. A. Clyne.  
Quantum Resolved Dynamics in the B State of Chlorine.  
*Molecular Spectroscopy Conference*, Ohio University, Columbus, Ohio, USA, June 1978.
6. J. B. Laudenslager, R. W. Svorec, **I. S. McDermid** and T. J. Pacala.  
Development and Application of Excimer Lasers for Remote Sensing.  
*10<sup>th</sup> International Laser Radar Conference*, Silver Spring, Maryland, USA, October 1980.
7. **I. S. McDermid** and J. B. Laudenslager.  
Lifetimes and Quenching Rate Constants Relevant to Remote Sensing of Hydroxyl Radicals with 308 nm Excitation (XeCl).  
*Topical Meeting on Spectroscopy in Support of Atmospheric Measurements*, Sarasota, Florida, USA, November 1980.
8. J. B. Laudenslager, T. J. Pacala and **I. S. McDermid.**  
Scanning, Tunable XeCl Laser: Characteristics and Application to LIF Detection of OH.  
*Conference on Lasers and Electro-Optics*, Washington, D.C., USA, June 1981.
9. J. B. Laudenslager, **I. S. McDermid** and T. J. Pacala.  
Development of Compact Excimer Lasers for Remote Sensing.  
*Workshop on Optical and Laser Remote Sensing*, Monterey, California, USA, February 1982.
10. **I. S. McDermid** and J. B. Laudenslager.  
(Invited Talk). Scenario for Remote LIF Detection of OH Using 308 nm Excitation.  
*NASA Instrumentation Workshop for  $H_xO_y$  and  $N_xO_y$  Tropospheric Species*, Palo Alto, California, USA, August 1982.
11. J. B. Laudenslager, **I. S. McDermid** and T. J. Pacala.  
(Invited Talk). State-of-Development of Excimer Lasers and Their Applications for Atmospheric Monitoring.  
*NASA Instrumentation Workshop for  $H_xO_y$  and  $N_xO_y$  Tropospheric Species*, Palo Alto, California, USA, August 1982.

12. J. B. Laudenslager, **I. S. McDermid** and T. J. Pacala.  
(Invited Talk). Development of an *in-situ* Measurement Technique for Tropospheric NO<sub>x</sub> Using Resonant Ionization Laser Spectroscopy.  
*NASA Instrumentation Workshop for H<sub>x</sub>O<sub>y</sub> and N<sub>x</sub>O<sub>y</sub> Tropospheric Species*, Palo Alto, California, USA, August 1982.
13. **I. S. McDermid**, J. B. Laudenslager and T. J. Pacala.  
(Invited Talk). Application of New Technological Developments to the Remote Detection of Atmospheric Hydroxyl Radicals Using 308 nm Excitation.  
*Topical Meeting on Optical Techniques for Remote Probing of the Atmosphere*, Lake Tahoe, Nevada, USA, January 1983.
14. **I. S. McDermid** and C. R. Webster.  
Optogalvanic Photodetachment Spectroscopy.  
*Colloque International CNRS No. 352, Optogalvanic Spectroscopy and its Applications*, Aussois, France, June 1983.
15. J. B. SooHoo, D. A. Kiefer, D. J. Collins and **I. S. McDermid**.  
*In Vivo* Fluorescence Excitation and Absorption Spectra of Marine Phytoplankton: Responses to Adaptation.  
*Ocean Sciences Meeting*, ASLO, AGU, New Orleans, Louisiana, USA, January 1984.
16. **I. S. McDermid**, D. J. Collins, D. A. Kiefer and J. B. SooHoo.  
Emission Spectra of Chlorophyll-a Fluorescence in Photoadapted Marine Phytoplankton.  
*Ocean Sciences Meeting*, ASLO, AGU, New Orleans, Louisiana, USA, January 1984.
17. J. B. Laudenslager, **I. S. McDermid**, T. J. Pacala and D. M. Rider.  
Applications of Excimer Lasers for Atmospheric Species Measurements.  
*SPIE Conference 461, New Lasers for Industrial and Analytical Chemistry*, Los Angeles, California, USA, January 1984.
18. F. Litvack, W. S. Grundfest, L. Morgenstern, M. Lee, J. Matloff, J. Forrester, **I. S. McDermid**, T. J. Pacala, D. M. Rider and J. B. Laudenslager.  
Safe Angioscopically Guided Laser Angioplasty May Be Possible With Pulsed Short Wavelength Lasers.  
*AAMI 19<sup>th</sup> Annual Meeting*, Washington, D.C., USA, April 1984.
19. J. B. SooHoo, D. A. Kiefer, D. J. Collins and **I. S. McDermid**.  
*In Vivo* Fluorescence Excitation and Absorption Spectra of Marine Phytoplankton: Taxonomic Characteristics and Responses to Photoadaptation.  
*Second International Workshop of the Group for Aquatic Primary Productivity*, Israel Oceanographic Institute, Haifa, Israel, April 1984.
20. D. J. Collins, J. B. Breckenridge, **I. S. McDermid** and C. A. Sepulveda.  
Recent Progress in the Measurement of Temperature and Salinity by Optical Scattering.  
*SPIE Conference No. 489, Ocean Optics VII*, Monterey, California, USA, June 1984.
21. D. M. Rider, **I. S. McDermid**, T. J. Pacala and J. B. Laudenslager.  
Resonance Ionization Spectroscopy for the Detection of Tropospheric NO.  
*Conference on Lasers and Electro-Optics*, Anaheim, California, USA, June 1984.
22. W. S. Grundfest, I. F. Litvack, L. Morgenstern, J. S. Forrester, **I. S. McDermid**, T. J. Pacala, D. M. Rider and J. B. Laudenslager.  
The Effect of Excimer Laser Radiation on Human Atherosclerotic Aorta: Amelioration of Laser Induced Thermal Damage.  
*Conference on Lasers and Electro-Optics*, Anaheim, California, USA, June 1984.

23. **I. S. McDermid**, J. B. Laudenslager and T. J. Pacala.  
Narrow-Bandwidth Lidar System for Hydroxyl Measurements: Design and Performance Specifications.  
*Conference on Lasers and Electro-Optics*, Anaheim, California, USA, June 1984.
24. T. J. Pacala, **I. S. McDermid** and J. B. Laudenslager.  
Magnetically Switched, Long Pulse Xenon Chloride Oscillator Amplifier System.  
*Conference on Lasers and Electro-Optics*, Anaheim, California, USA, June 1984.
25. T. J. Pacala, **I. S. McDermid** and J. B. Laudenslager.  
A Magnetic Modulator for a Repetitively Pulsed Xenon Chloride Laser System.  
*16<sup>th</sup> IEEE Power Modulator Symposium*, Arlington, Virginia, USA, June 1984.
26. **I. S. McDermid**, J. B. Laudenslager and T. J. Pacala.  
Design of a Narrow-Bandwidth Lidar System for Tropospheric Hydroxyl Measurements.  
*12<sup>th</sup> International Laser Radar Conference*, Aix-en-Provence, France, August 1984.
27. F. Litvack, W. Grundfest, J. Forrester, **I. S. McDermid**, T. J. Pacala, D. M. Rider and J. B. Laudenslager.  
Pulsed Ultraviolet Laser Eliminates Thermal Injury to Tissue.  
*Royal College of Physicians and Surgeons of Canada*, Montreal, Canada, September 1984.
28. D. J. Collins, D. A. Kiefer, J. B. SooHoo and **I. S. McDermid**.  
Observations of Non-Linear Laser-Induced Fluorescence from Marine Phytoplankton.  
*AGU Fall Meeting*, San Francisco, California, USA December 1984.
29. F. Litvack, W. Grundfest, J. S. Forrester, D. M. Rider, **I. S. McDermid**, T. J. Pacala and J. B. Laudenslager.  
The Effects of Haematoporphyrin Derivative and 636 nm Laser Irradiation on Atherosclerotic Rabbits.  
*34<sup>th</sup> Annual Scientific Session, American College of Cardiology*, Anaheim, California, USA, March 1985.
30. **I. S. McDermid**, J. B. Laudenslager and D. Rees.  
(Invited Talk). UV-Excimer Laser Based Incoherent Doppler Lidar System.  
*Symposium and Workshop on Global Wind Measurements*, Columbia, Maryland, USA, July 1985.
31. **I. S. McDermid**, T. J. Pacala and J. B. Laudenslager.  
(Invited Talk). Spectral Line Narrowing and Continuous Tuning of Excimer Lasers.  
*Lasers 85*, Las Vegas, Nevada, USA, December 1985.
32. F. Litvack, W. Grundfest, T. Goldenberg, T. Sherman, **I. S. McDermid**, J. J. Margitan, T. J. Pacala, J. B. Laudenslager and J. S. Forrester.  
Pulsed Laser Angioplasty: Design Criteria for Clinical Application.  
*35<sup>th</sup> Annual Scientific Session, American College of Cardiology*, Atlanta, Georgia, USA, March 1986.
33. **I. S. McDermid**.  
The Feasibility of Ground-Based Lidar Measurements of Stratospheric Hydroxyl (Invited).  
*NASA Workshop on Early Detection of Stratospheric Changes*, Boulder Colorado, USA, March 1986.
34. W. Grundfest, F. Litvack, T. Goldenberg, J. Forrester, J. B. Laudenslager, T. J. Pacala and **I. S. McDermid**.  
Excimer Laser Angioplasty: Potential Application of New Technologies.  
*Conference on Lasers and Electro-Optics*, San Francisco, California, USA, June 1986.

35. J. B. Laudenslager, **I. S. McDermid**, T. J. Pacala, T. Goldenberg, F. Litvack, W. Grundfest and J. Forrester.  
Effect of 308 nm XeCl Laser Pulse Duration on Fiber-Optic Transmission and Biologic Tissue Ablation.  
*Conference on Lasers and Electro-Optics*, San Francisco, California, USA, June 1986.
36. T. J. Pacala, **I. S. McDermid** and J. B. Laudenslager.  
Scanning, Narrow-Bandwidth Xenon Chloride Oscillator-Amplifier System.  
*Conference on Lasers and Electro-Optics*, San Francisco, California, USA, June 1986.
37. **I. S. McDermid**.  
(Invited Talk). UV-Lidar Developments at JPL-TMO.  
*14<sup>th</sup> Annual Meeting on Upper Atmospheric Studies by Optical Methods*, Cambridge, England, August 1986.
38. **I. S. McDermid**.  
(Invited Talk). Stratospheric Ozone Lidar.  
Future of the Stratosphere: Concept of a Ground-Based Network for the Detection of *Stratospheric Change*, *Special Session at the 1988 GMCC Annual Meeting*, Hilo, Hawaii, March 1988.
39. D. Rees and **I. S. McDermid**.  
Re-evaluation of a UV Incoherent Doppler Lidar.  
*14<sup>th</sup> International Laser Radar Conference*, Innichen-San Candido, Italy, June 1988.
40. D. Haner, S. Godin and **I. S. McDermid**.  
Raman-Shifted Nd:YAG Laser for Tropospheric Ozone Lidar.  
*14<sup>th</sup> International Laser Radar Conference*, Innichen-San Candido, Italy, June 1988.
41. **I. S. McDermid**.  
High Power, Ground-Based Lidars for Long-Term Stratospheric and Tropospheric Ozone Measurements.  
*14<sup>th</sup> International Laser Radar Conference*, Innichen-San Candido, Italy, June 1988.
42. **I. S. McDermid** and S. M. Godin.  
Stratospheric Ozone Measurements with a Ground-Based, High Power Lidar.  
*SPIE Conference No. 1062, Laser Applications in Meteorology and Earth and Atmospheric Remote Sensing*, Los Angeles, California, USA, January 1989.
43. **I. S. McDermid**.  
(Invited Talk). Intercomparisons.  
*Workshop on the Network for the Detection of Stratospheric Change*, WMO, Geneva, Switzerland, November 1989.
44. **I. S. McDermid**.  
(Invited Talk). Ozone DIAL Measurements at JPL-TMF.  
*First Tsukuba Workshop on Ozone DIAL*, NIES, Tsukuba, Ibaraki, Japan, December 1989.
45. **I. S. McDermid** and T. D. Walsh.  
(Invited Talk). Lidar Measurements of Stratospheric Ozone: Inter-comparisons and Validation.  
*Optical Society of America Topical Meeting on Laser Applications to Chemical Analysis*, Incline Village, Nevada, USA, February 1990.
46. **I. S. McDermid** and T. D. Walsh.  
(Invited Talk). The JPL-TMF Stratospheric Ozone Lidar System.  
*Optical Society of America Topical Meeting on Optical Remote Sensing of the Atmosphere*, Incline Village, Nevada, USA, February 1990.

47. **I. S. McDermid** and T. D. Walsh.  
Results from the JPL-TMF Ozone Lidar System During STOIC'89.  
*Optical Society of America Topical Meeting on Optical Remote Sensing of the Atmosphere*,  
Incline Village, Nevada, USA, February 1990.
48. J. Butler, P. Newman, D. Whiteman, T. J. McGee, J. Burris, S. Godin, R. Ferrare and  
**I. S. McDermid**.  
Lidar Observations of Ozone Changes Induced by Sub-Polar Airmass Motion Over Table  
Mountain (34.4°N).  
*Optical Society of America Topical Meeting on Optical Remote Sensing of the Atmosphere*,  
Incline Village, Nevada, USA, February 1990.
49. **I. S. McDermid**, T. D. Walsh and S. M. Godin.  
The JPL Stratospheric Ozone Lidar: System Update, Inter-Comparisons and Validation.  
*15<sup>th</sup> International Laser Radar Conference*, Tomsk, Siberia, USSR, July 1990.
50. **I. S. McDermid**, S. M. Godin, T. D. Walsh, J. Burris, J. Butler, R. Ferrare, D. Whiteman and  
T. J. McGee.  
Measurement Inter-Comparison of the JPL and GSFC Stratospheric Ozone Lidar Systems.  
*15<sup>th</sup> International Laser Radar Conference*, Tomsk, Siberia, USSR, July 1990.
51. D. A. Haner, M. Kleiman and **I. S. McDermid**.  
Tropospheric Ozone Measurements with Raman Shifted Nd:YAG IV.  
*15<sup>th</sup> International Laser Radar Conference*, Tomsk, Siberia, USSR, July 1990.
52. J. J. Tsou, B. J. Connor, A. D. Parrish, **I. S. McDermid** and W. P. Chu.  
Intercomparison of Middle Atmosphere Ozone Profiles Measured by Millimeter Wave  
Radiometer, Lidar, and SAGE II Satellite.  
*AGU Fall Meeting*, San Francisco, California, USA, December 1990.
53. **I. S. McDermid**, M. Schmoe and T. D. Walsh.  
Ground-Based Lidar for Long-Term and Network Measurements.  
*SPIE Conference 1491*, Remote Sensing of Atmospheric Chemistry, Orlando, Florida, USA,  
April 1991.
54. J. J. Tsou, B. J. Connor, A. D. Parrish, **I. S. McDermid** and W. P. Chu.  
Ground-based Microwave Observations of Ozone: Comparison to Lidar and Satellite  
Observations.  
*IUGG XX General Assembly*, Vienna, Austria, August 1991.
55. **I. S. McDermid**, T. D. Walsh, M. Schmoe, R. Hoff and D. A. Haner.  
Lidar Observations of Pinatubo Aerosols at Table Mountain (34° N) and their Effect on Ozone  
DIAL Measurements.  
*Optical Society of America Topical Meeting on Optical Remote Sensing of the Atmosphere*,  
Williamsburg, Virginia, USA, November 1991.
56. **I. S. McDermid** and R. E. Martin.  
Remote Detection and Imaging of Hydrogen Concentrations by Raman Lidar.  
*Hydrogen Leak Detection Technology*, Technical Interchange Meeting, Kennedy Space Center,  
Florida, USA, April 1992.
57. **I. S. McDermid**, M. S. Schmoe and T. D. Walsh.  
Lidar Measurements of Stratospheric Ozone at Table Mountain, California, Since 1988.  
*Quadrennial Ozone Symposium*, Charlottesville, Virginia, USA, June 1992.

58. A. Parrish, B. J. Connor, J. J. Tsou, **I. S. McDermid**, W. P. Chu and D. E. Siskind.  
Results from Two Years of Ozone Data Taken with a New, Ground-Based Microwave Instrument: An Overview.  
*Quadrennial Ozone Symposium*, Charlottesville, Virginia, USA, June 1992.
59. **I. S. McDermid**.  
The JPL Table Mountain and Mauna Loa Stratospheric Ozone Lidars.  
*16<sup>th</sup> International Laser Radar Conference*, Cambridge, Massachusetts, USA, July 1992.
60. T. D. Walsh, L. O. Lindquist, M. L. White, A. Deslis and **I. S. McDermid**.  
New Lidar for the Network for the Detection of Stratospheric Change - Mauna Loa Observatory: System Description.  
*Optical Society of America Sixth Topical Meeting on Optical Remote Sensing of the Atmosphere*, Salt Lake City, Utah, USA, March 1993.
61. **I. S. McDermid** and T. D. Walsh.  
New Lidar for the Network for the Detection of Stratospheric Change - Mauna Loa Observatory: Initial Results.  
*Optical Society of America Sixth Topical Meeting on Optical Remote Sensing of the Atmosphere*, Salt Lake City, Utah, USA, March 1993.
62. D. A. Haner, E. W. Sirko and **I. S. McDermid**.  
Lidar Observations of Mt. Pinatubo Aerosols at Table Mountain (34° N).  
*Optical Society of America Sixth Topical Meeting on Optical Remote Sensing of the Atmosphere*, Salt Lake City, Utah, USA, March 1993.
63. J. D. Wild, A. J. Miller, A. Adriani, F. Congeduti, G. Gobi, M. L. Chanin, A. Hauchecorne, R. Farley, E. Fishbein, **I. S. McDermid** and T. J. McGee.  
Eliminating Diurnal Effects from Lidar/NMC Temperature Comparisons.  
*EGS Meeting*, Weisbaden, Germany, May 1993.
64. W. G. Planet, A. J. Miller, J. DeLuisi, D. Hofmann, **I. S. McDermid** and R. D. McPeters.  
Comparison of NOAA-11 SBUV/2 Ozone Vertical Profiles with Correlative Measurements.  
*AMS Ninth Conference on the Middle Atmosphere*, Monterey, California, USA, June 1994.
65. **I. S. McDermid**, E. W. Sirko and T. D. Walsh.  
(Invited Talk). Lidar Measurements of Stratospheric Ozone, Temperature and Aerosols at the Mauna Loa and Table Mountain NDSC Stations.  
*17<sup>th</sup> International Laser Radar Conference*, Sendai, Japan, July 1994.
66. U. N. Singh, M. Gross, T. J. McGee, **I. S. McDermid**, J. Waters, E. Fishbein, J. Russell, J. Gille, P. Bailey, A. Roche and J. Kumer.  
Stratospheric Temperature Measurements Intercomparison Using Lidar and UARS Instruments at Table Mountain NDSC Station.  
*17<sup>th</sup> International Laser Radar Conference*, Sendai, Japan, July 1994.
67. **I. S. McDermid**, E. F. Fishbein, L. Froidevaux, E. W. Sirko and T. D. Walsh.  
(Invited Talk). Lidar Measurements of Stratospheric Ozone and Temperature at Table Mountain, CA, and Mauna Loa, HI, and Comparison with UARS Results.  
*IGARSS'94*, Pasadena, California, USA, August 1994.
68. D. A. Haner and **I. S. McDermid**.  
JPL-TMF Multiwavelength Aerosol Lidar.  
*Optical Society of America Seventh Topical Meeting on Optical Remote Sensing of the Atmosphere*, Salt Lake City, Utah, USA, February 1995.

69. U. N. Singh, T. J. McGee, M. R. Gross, P. Kimvilakani, P. Keckhut, A. Hauchecorne, **I. S. McDermid**, E. F. Fishbein, J. W. Waters, J. C. Gille, A. E. Roche and J. M. Russell. UARS Correlatives temperature Measurements by NASA-GSFC Mobile Lidar. *UARS Spring Science Team Meeting*, 1995.
70. D. A. Haner, **I. S. McDermid**, D. M. Tratt and R. T. Menzies. JPL lidar multiwavelength correlative measurements during LITE overpasses of Southern California. *Optical Society of America Topical Meeting on Coherent Laser Radar*, Keystone, Colorado, USA, July 1995.
71. J. D. Wild, A. J. Miller, W. G. Planet, B. J. Connor, S. Godin, **I. S. McDermid**, T. J. McGee, H. Nakane and G. Visconti. Comparison of SBUV/2 NOAA 11 Ozone Profiles with Ground-Based Lidar and Microwave Instruments. *American Geophysical Union, Fall Meeting*, San Francisco, California, USA, December 1995.
72. W. Steinbrecht, H. Jäger, J. Barnes, G. Beyerle, R. Neuber, C. David, S. Godin, F. Masci, G. Visconti, A. Mielke, B. Stein, T. Nagai, O. Uchino, M. Osborn, D. Winker, **I. S. McDermid** and G. Mégie. NDSC Intercomparison of Stratospheric Aerosol Processing Algorithms. *18<sup>th</sup> International Laser Radar Conference*, Berlin, Germany, July 1996.
73. G. Beyerle, **I. S. McDermid**, R. Neuber and P. von der Gathen. Comparative Study of Stratospheric Aerosols and Ozone at Mid and High Latitudes during the Pinatubo Episode, 1991-1994. *18<sup>th</sup> International Laser Radar Conference*, Berlin, Germany, July 1996.
74. T. J. McGee, M. R. Gross, U. Singh, **I. S. McDermid**, J. Barnes and D. Hofmann. Intercomparison of Lidar-Derived Temperatures during the MLO3 NDSC Validation at Mauna Loa, HI, August 1995. *18<sup>th</sup> International Laser Radar Conference*, Berlin, Germany, July 1996.
75. **I. S. McDermid**, T. J. McGee, D. P. J. Swart, *et al.* NDSC Lidar Intercomparisons and Validation: OPAL and MLO3 Campaigns in 1995. *18<sup>th</sup> International Laser Radar Conference*, Berlin, Germany, July 1996.
76. D. A. Haner, G. Beyerle and **I. S. McDermid**. Nd:YAG-IV Raman Shifted for Tropospheric Ozone Lidar. *18<sup>th</sup> International Laser Radar Conference*, Berlin, Germany, July 1996.
77. J. D. Wild, A. J. Miller, W. G. Planet, S. Godin, **I. S. McDermid**, H. Nakane, G. Visconti and L. Froidevaux. Comparison of SBUV/2 NOAA 11 Ozone Profiles with Ground Based and UARS Instruments. *XVIII Quadrennial Ozone Symposium-96*, Rome, Italy, September 1996.
78. R. D. McPeters, D. J. Hofmann, M. Clark, L. Froidevaux, M. Gross, B. Johnson, G. Koenig, **I. S. McDermid**, T. McGee, F. Murcray, S. Oltmans, A. Parrish, U. Singh, J. J. Tsou and J. Zawodny. Results from the 1995 NDSC Stratospheric Ozone Profile Intercomparison (MLO3). *XVIII Quadrennial Ozone Symposium-96*, Rome, Italy, September 1996.
79. **I. S. McDermid**, G. Beyerle, D. Haner, T. Leblanc, E. Sirko and T. D. Walsh. (Invited Talk). Results and Developments from the JPL-NDSC Lidar Program. *Optical Society of America Eighth Topical Meeting on Optical Remote Sensing of the Atmosphere*, Santa Fe, New Mexico, USA, February 1997.

80. G. Beyerle, H. J. Schäfer, R. Neuber, P. Rairoux, O. Schrems and **I. S. McDermid**.  
Dual wavelength Raman lidar observations of tropical cirrus clouds during ALBATROSS 1996.  
*Optical Society of America Eighth Topical Meeting on Optical Remote Sensing of the Atmosphere*, Santa Fe, New Mexico, USA, February 1997.
81. T. J. McGee, M. R. Gross, U. Singh, **I. S. McDermid**, J. Barnes and D. Hofmann.  
Intercomparison of lidar-derived temperatures during the MLO3 NDSC validation at Mauna Loa, Hawaii, August 1995.  
*Optical Society of America Eighth Topical Meeting on Optical Remote Sensing of the Atmosphere*, Santa Fe, New Mexico, USA, February 1997.
82. T. Leblanc and **I. S. McDermid**.  
Lidar Monitoring of the Middle Atmosphere Temperature Structure Above Table Mountain (34.4°N) and Mauna Loa (19.5°N) Between 1988 and 1996.  
*European Geophysical Society, XXII General Assembly*, Vienna, Austria, April 1997.
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